



DEPARTMENT OF THE ARMY  
U.S. ARMY ARMAMENT RESEARCH, DEVELOPMENT AND ENGINEERING CENTER  
PICATINNY ARSENAL, NJ 07806-5000



REPLY TO  
ATTENTION OF

**AD-A269 629**



SMCAR-AEP (1mm)

10 SEP 1993

MEMORANDUM FOR Commander, Defense Technical Information Center,  
Building 5, Cameron Station, Alexandria, VA  
22304-6145

SUBJECT: Release of Performance Oriented Packaging Compliance  
Report for Demolition Kit, Bangalore Torpedo: M1A2

1. The enclosed report (DOD POP HMTR/AYD 91-010 is hereby  
submitted to the Defense Technical Information Center for formal  
release. Notification of the formal release should be made to  
the letterhead address.

2. If there are any problems, questions, or comments regarding  
this report, contact Mr. Frank Sniezek at 201-724-2156 (DSN  
880-2156).

Encl  
as

ROBERT J. KUPER  
Chief, Packaging Division

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**SEP 16 1993**

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## REPORT DOCUMENTATION PAGE

Form Approved  
OMB No 0704 0188  
Exp Date Jun 30 1986

1a REPORT SECURITY CLASSIFICATION <b>Unclassified</b>			1b RESTRICTIVE MARKINGS	
2a SECURITY CLASSIFICATION AUTHORITY			3 DISTRIBUTION / AVAILABILITY OF REPORT	
2b DECLASSIFICATION / DOWNGRADING SCHEDULE			Unlimited	
4 PERFORMING ORGANIZATION REPORT NUMBER(S) DOD POP HMTR/AYD 91-010			5 MONITORING ORGANIZATION REPORT NUMBER(S)	
6a NAME OF PERFORMING ORGANIZATION Packaging Division, AED	6b OFFICE SYMBOL (if applicable) SMCAR-AEP	7a NAME OF MONITORING ORGANIZATION		
6c ADDRESS (City, State, and ZIP Code) U.S. Army, ARDEC Picatinny Arsenal, NJ 07806-5000		7b ADDRESS (City, State, and ZIP Code)		
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		WORK UNIT ACCESSION NO		
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12. PERSONAL AUTHOR(S) Sniezek, Frank				
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17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)	
FIELD	GROUP	SUB-GROUP	Performance Oriented Packaging, POP, Demolition Kit, Bangalore Torpedo: MIA2	
19. ABSTRACT (Continue on reverse if necessary and identify by block number)  This POP report is for the Demolition Kit, Bangalore Torpedo: MIA2 which is packaged one demolition kit/MIL-B-2427 wood box.				
20 DISTRIBUTION / AVAILABILITY OF ABSTRACT <input type="checkbox"/> UNCLASSIFIED/UNLIMITED <input checked="" type="checkbox"/> SAME AS RPT <input type="checkbox"/> DTIC USERS			21 ABSTRACT SECURITY CLASSIFICATION Unclassified	
22a NAME OF RESPONSIBLE INDIVIDUAL STEVE RUFFINI <i>Steve Ruffini</i>			22b TELEPHONE (Include Area Code) (201) 724-2515	22c OFFICE SYMBOL SMCAR-AEP

I. REPORT NUMBER: DOD POP HMTR/AYD 91-010

II. TITLE: Performance Oriented Packaging Report for Demolition Kit,  
Bangalore Torpedo: M1A2

AUTHOR: Frank M. Sniezek

PERFORMING ACTIVITY: ARDEC

ADDRESS: Department of the Army  
ARDEC, SMCAR-AEP  
HQ, U.S. Army Armament, Munitions, and Chemical Command  
Picatinny Arsenal, NJ 07806-5000

DATE: 7 September 93

Approved for public release; distribution is unlimited

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Justification	
By	
Distribution /	
Availability Codes	
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## 1. DATA SHEET

### CONTAINER

Type: Box  
UN Code: 4C1  
Nomenclature: Box, Packing, Ammunition for Kit, Demolition,  
Bangalore Torpedo, M1A2  
Specification Number: Type II, Grade A, Class 5, Mil-B-2427  
Drawing Number: 9216100  
Material: Wood  
Gross Weight: 198 pounds  
Outside Dimensions: 65 5/8 x 15 5/16 x 7  
Inside Dimensions: 60 3/8 x 13 3/4 x 4 9/16

### PRODUCT

Name: Demolition Kit, Bangalore Torpedo, M1A2  
Drawing Number: 8863370  
United Nations Number: 0034  
Physical State: Solid  
Amount per Container: 1

## 2. BACKGROUND, TESTS, AND RESULTS

Reference the following document:

a: 49CFR, October 1, 1991 Edition

A Stacking Test was conducted on three containers packaged with 1 1/2 inch nominal, schedule 40 pipe, to simulate the torpedoes. The gross weight of the packed box was 206 pounds which exceeds the gross weight of the packaged bangalore torpedoes which is 198 pounds. A stacking weight applied to each of the containers was 3502 pounds for 24 hours. This weight exceeds the minimum requirement for a 10 foot stack height which is 3394 pounds.

A Loose Cargo Test was conducted on the same three containers, previously tested in the Stacking Test for one hour. The packages were tested at a vibration table frequency such that the bottom of the packages were raised a minimum of 1/16 inch.

The Four Foot Drop Test was conducted. One of the containers, previously tested in the Stacking and Loose Cargo Tests was dropped at orientations of top, bottom, long side, short side, and 45 degrees on the top. Since the results of the 45 degree top drop orientation was marginal, it was decided to retest using live charges. Three containers packaged with live charges were dropped 45 degrees at orientations of top corner of the hasp side of the box, top corner on the hinge side of the box, and bottom corner of the hasp side of the box.

The test results indicated no leakage or spillage of the contents from the containers following the tests conducted, meeting the requirements of the 49CFR.